

FIG. 1

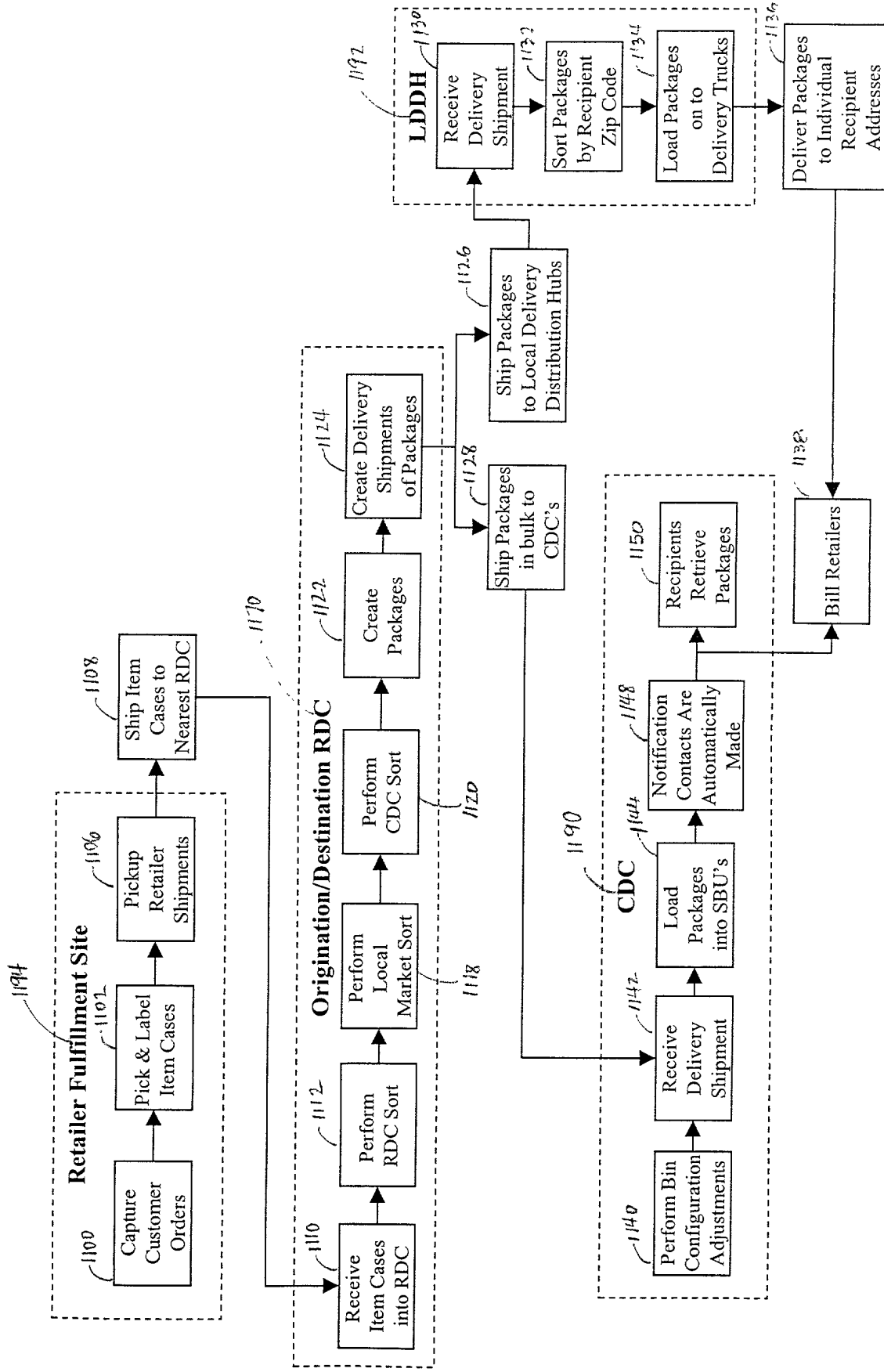


FIG. 1A

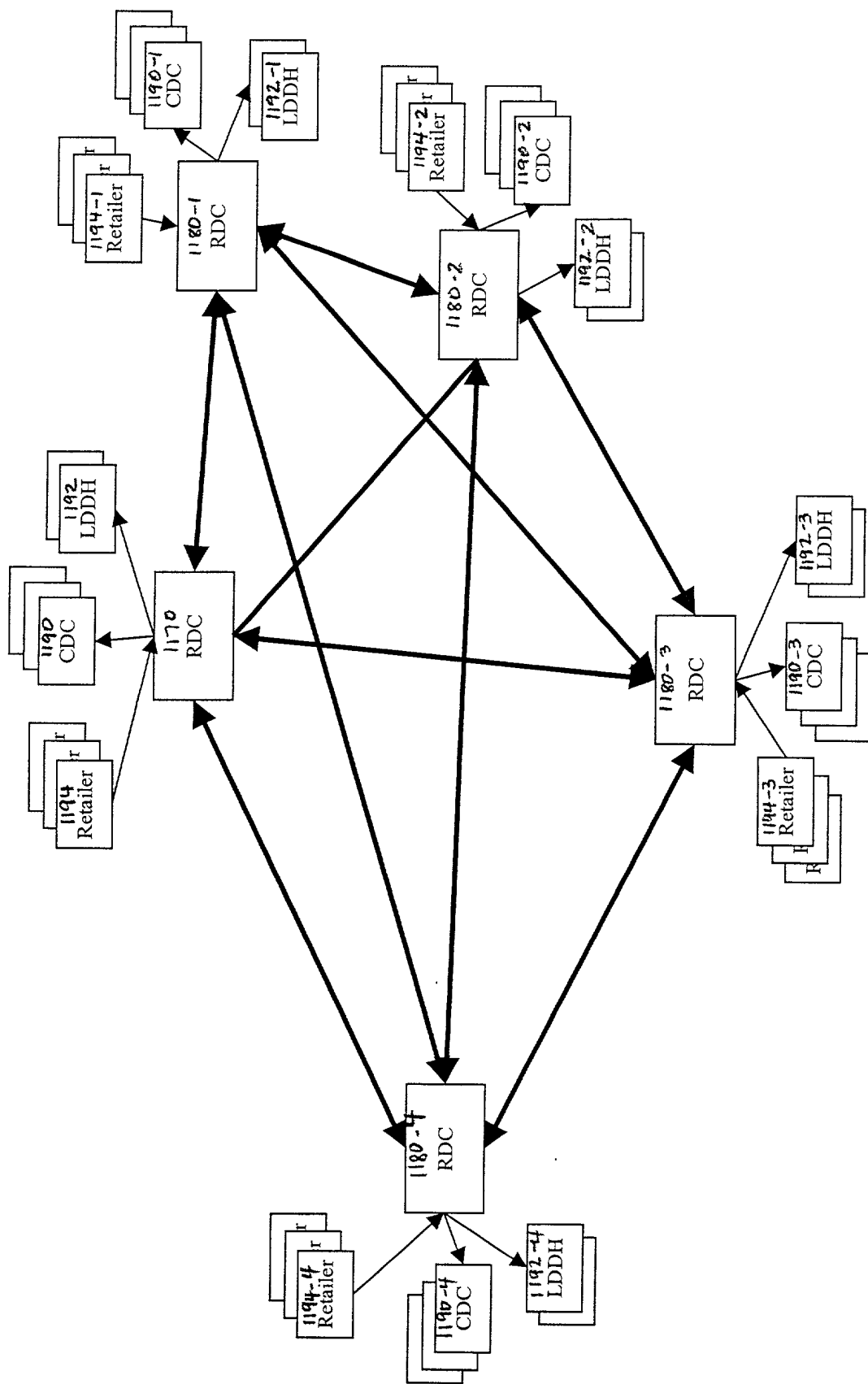


FIG. 2

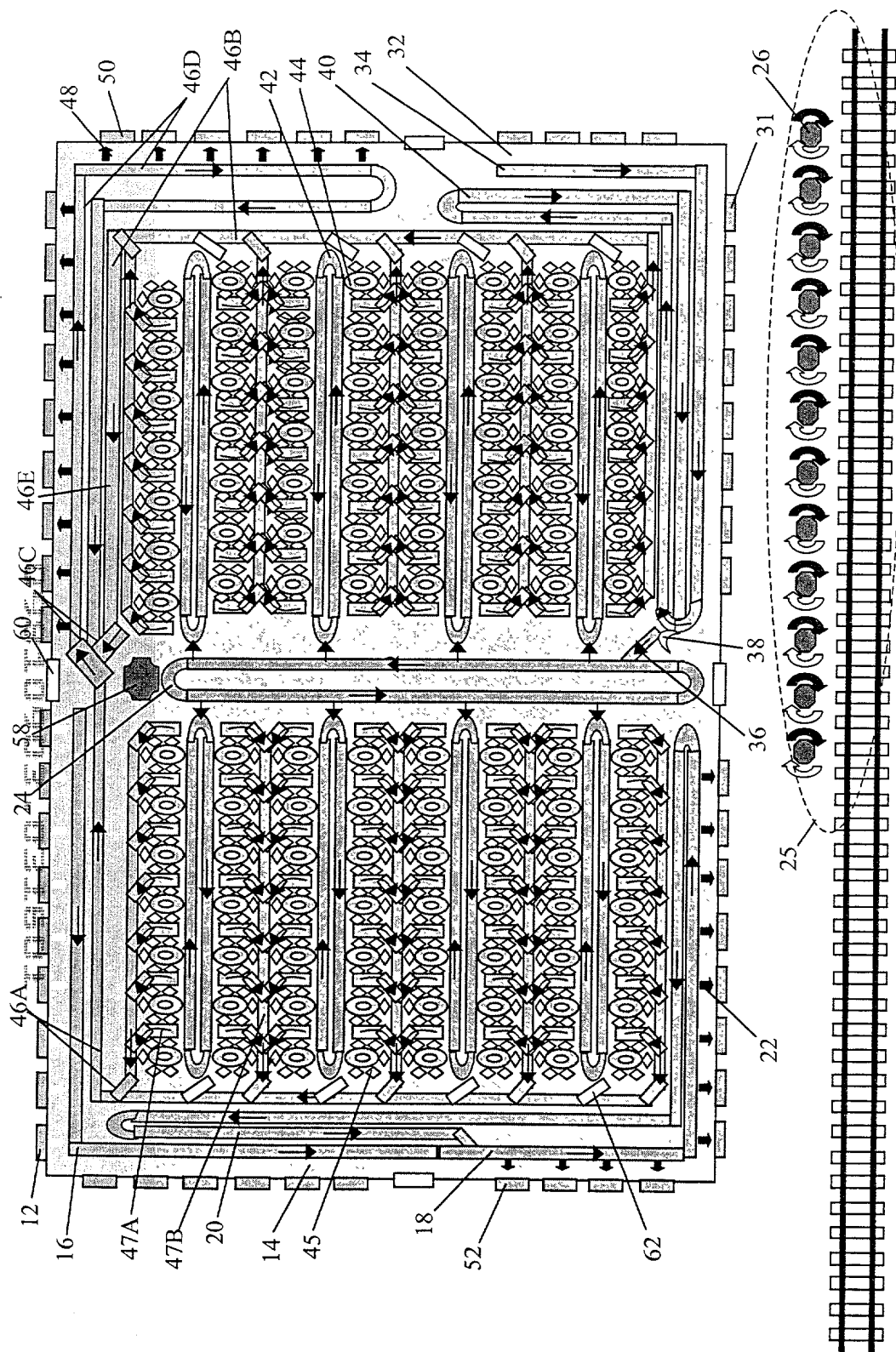


FIG 3

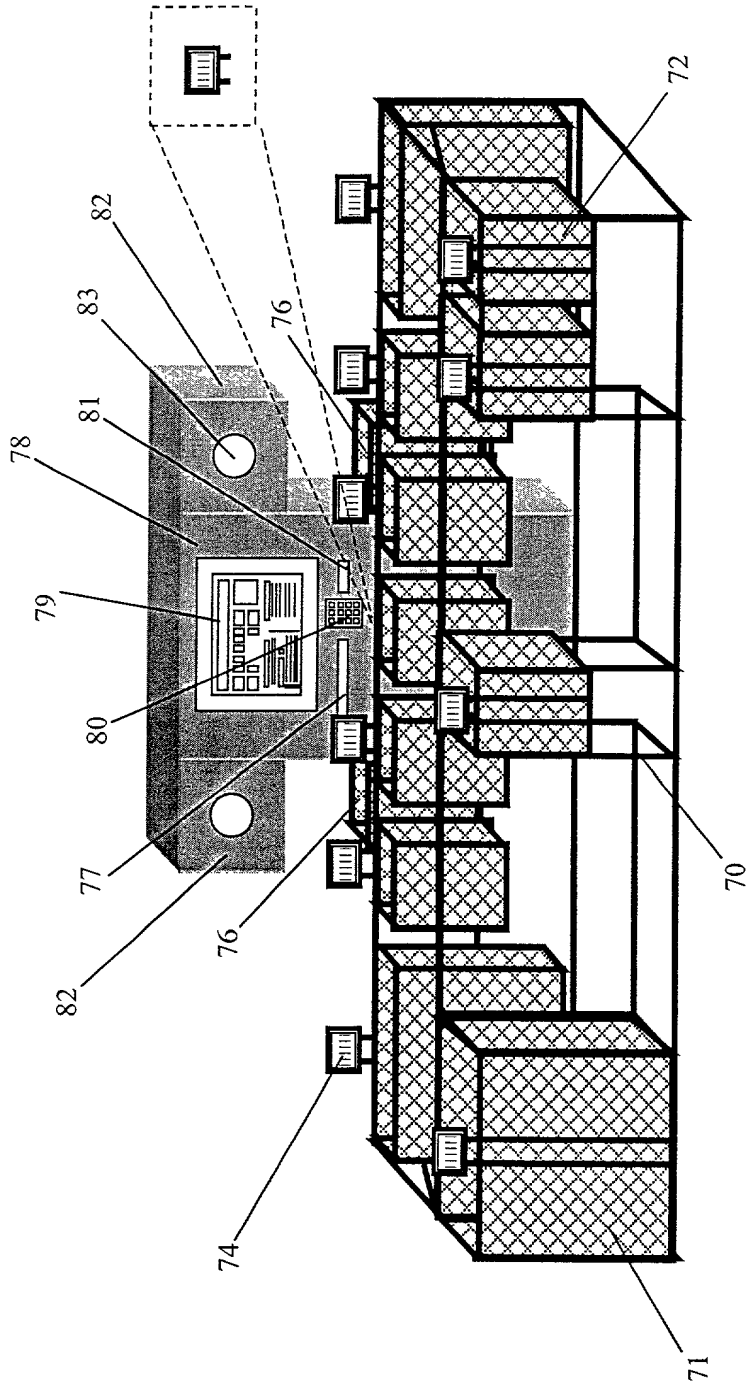


FIG 4

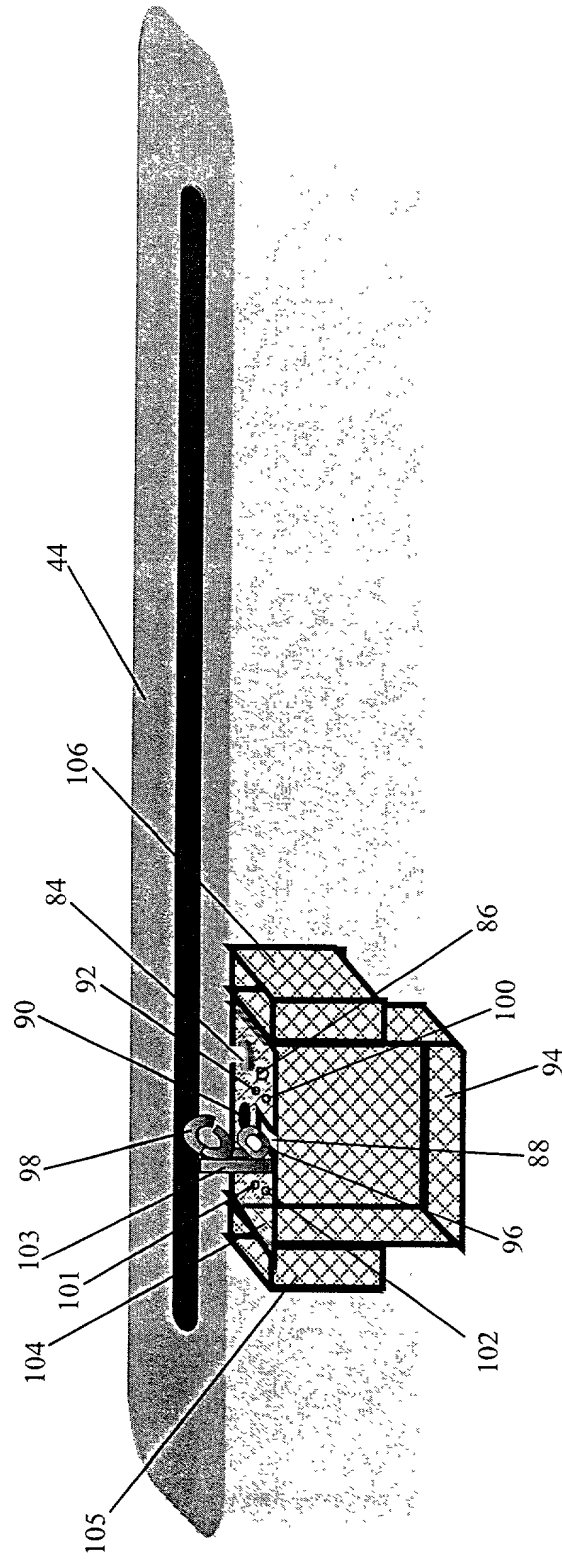


FIG 5

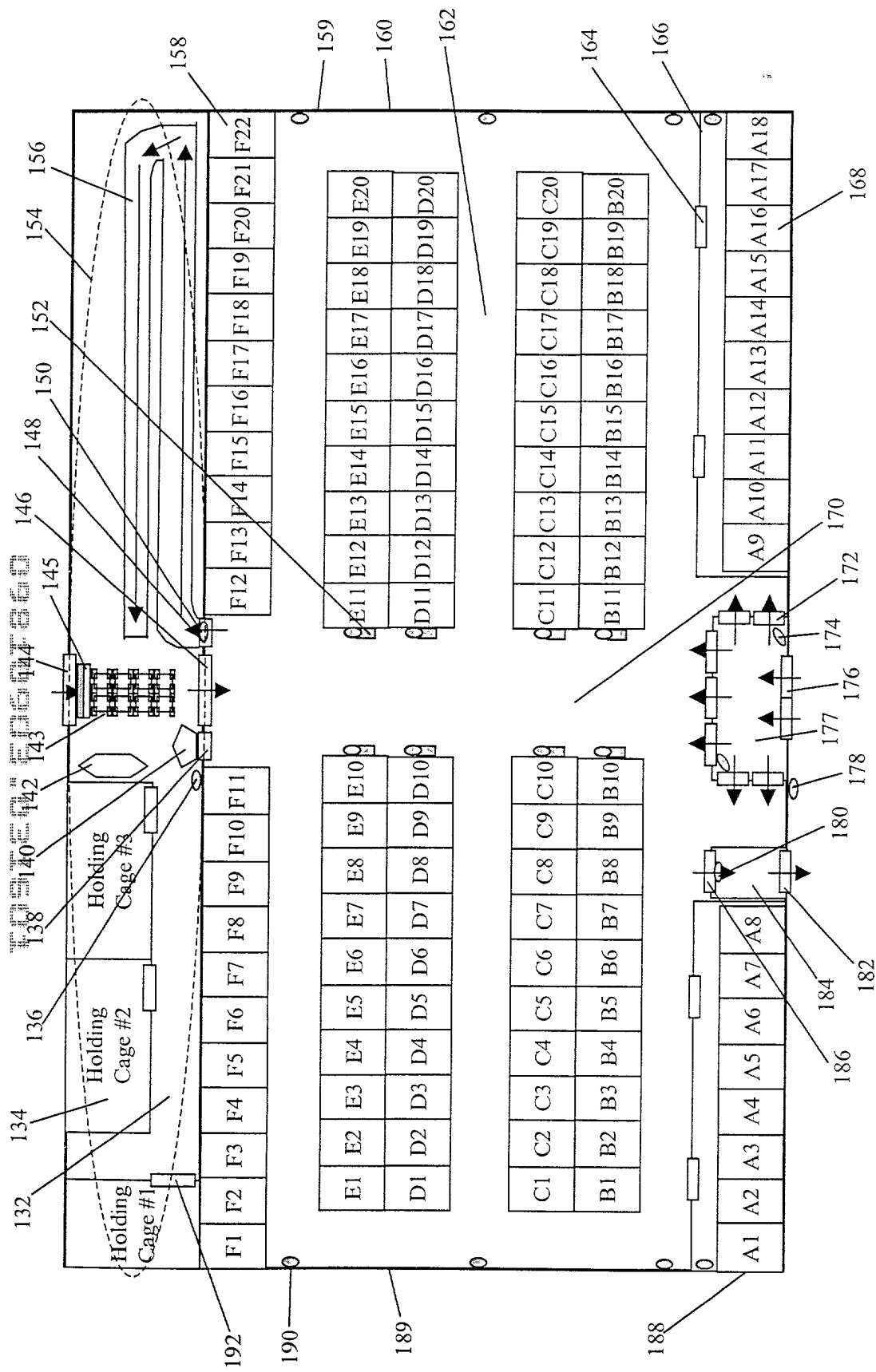


FIG 6

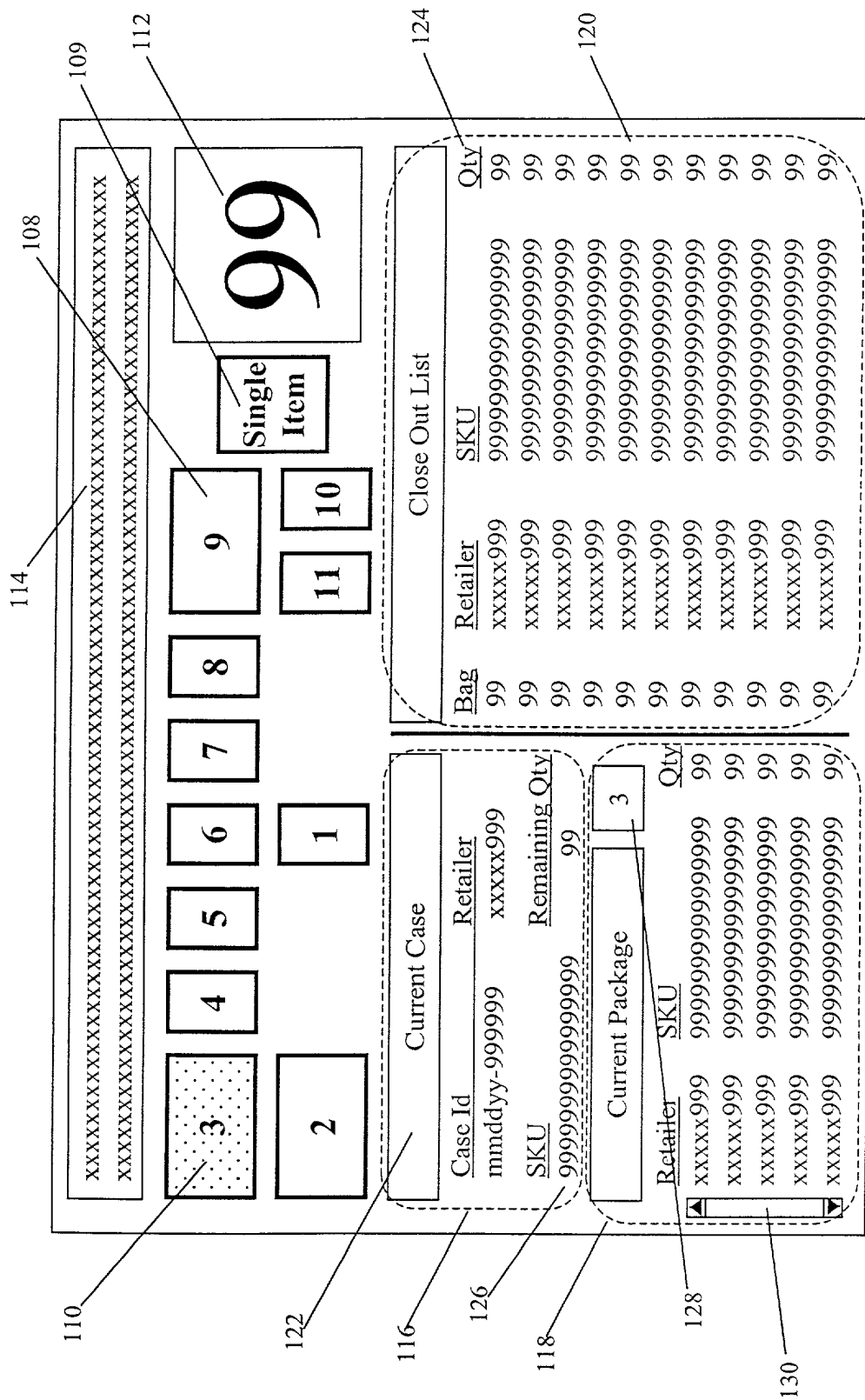


FIG 7

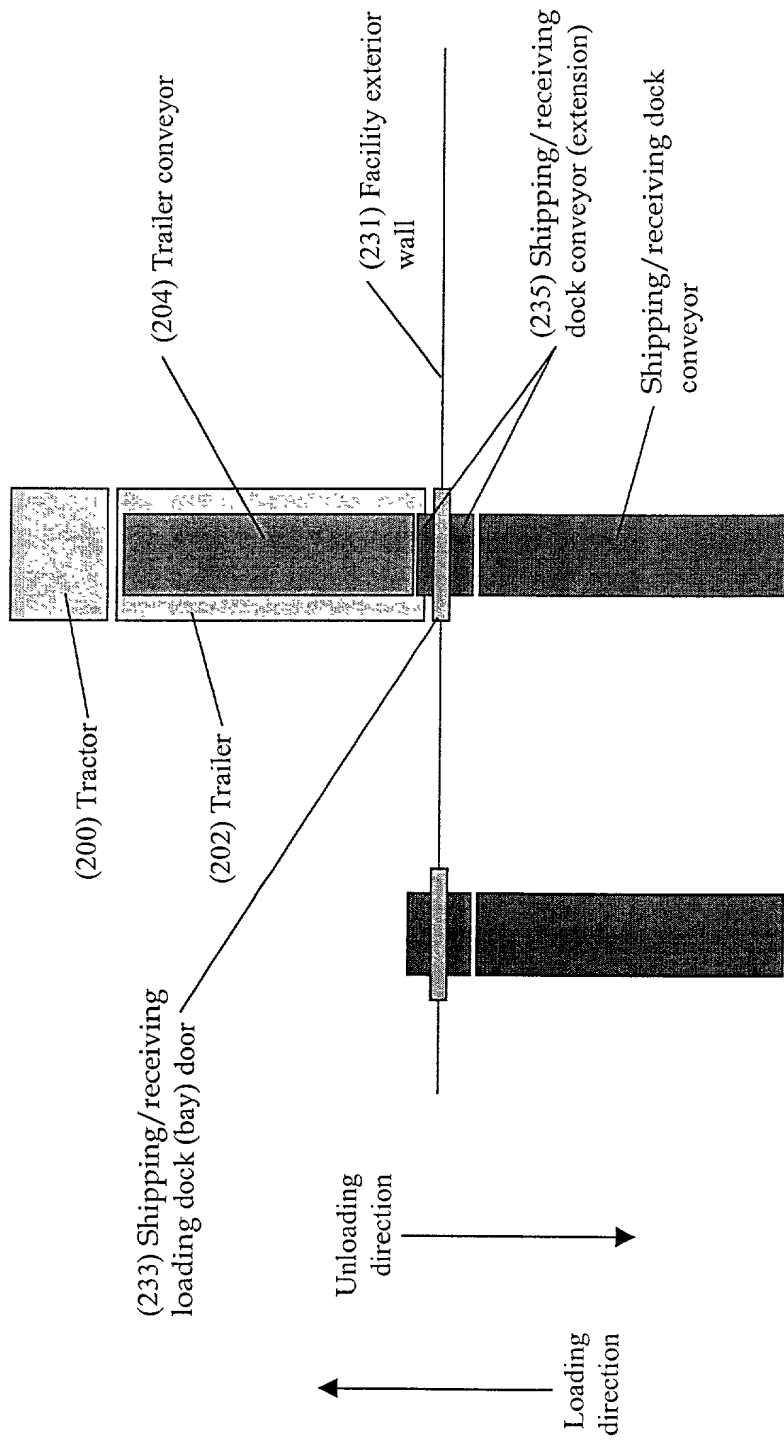


FIG 8

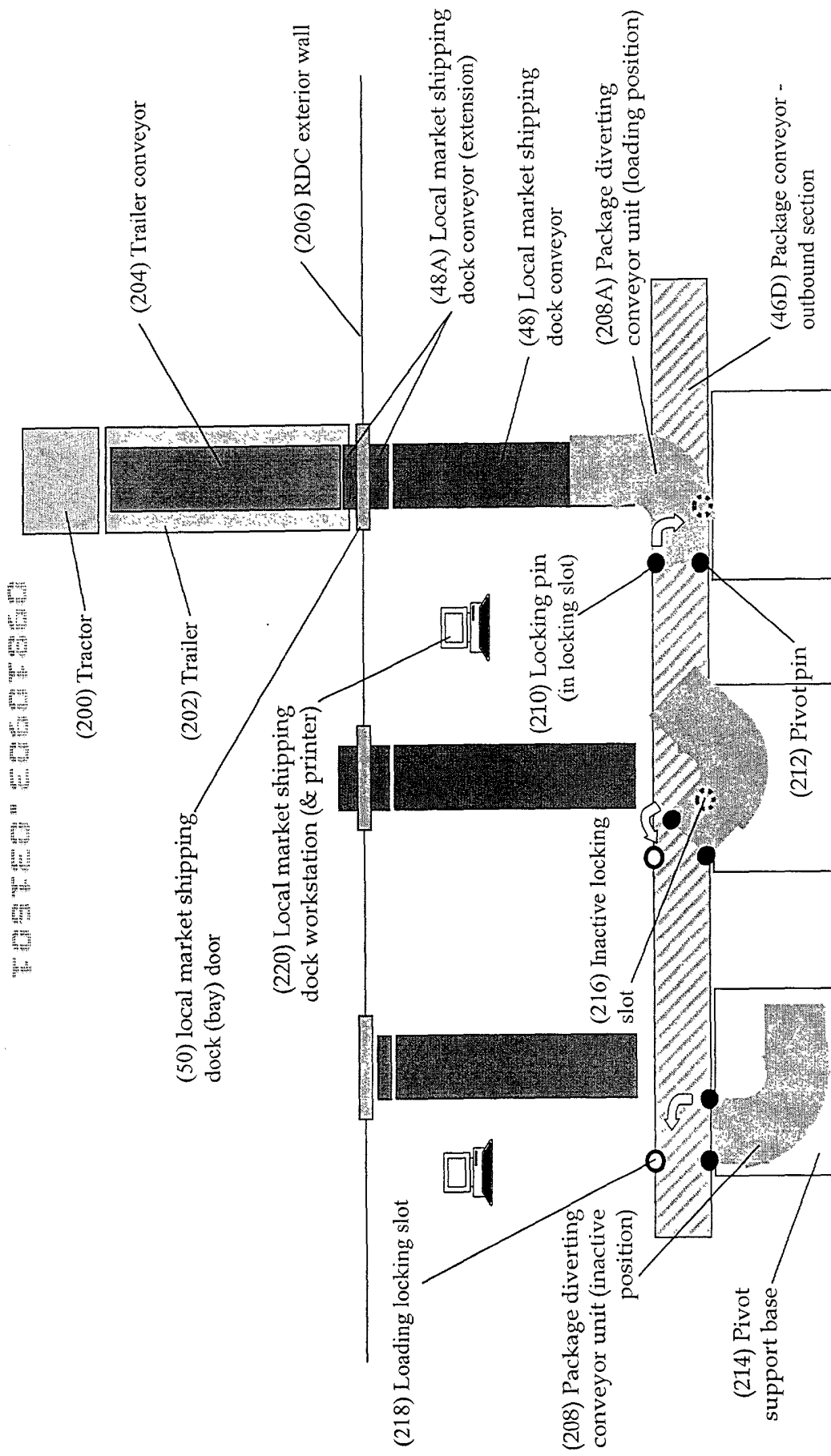


FIG 8A

Order Header table

Order Id	Status	ePD Shipper Id	ePD Retailer Id	Retailer Order Number	Delivery Type	Customer Id	Ordering Customer Id	Order Date/Time	RDC Id	Local Market Id	CDC Id	Partial Ship	Retailer Message-Order Header	Retailer Message-Packing List	Delivery Name	Delivery Address 1	Delivery Address 2	Delivery City	Delivery State	Delivery Zip
amaz0001-18362308-5-080300-001	open	amaz0001	amaz0001	987651321	ePD	183-62-3085	183-62-3085	08-03-00 14:23:02	AT001	sflor	sflor-019	No	custom message (for order)	custom message (for retailer)						

Order Detail table

Order Id	Status	SKU	SKU Size	Temperature Code	Quantity	Retailer Shipment Id	RDC Shipment Id	Package Id	Case Id	Retailer Message-Order Detail	Notification Date/Time	Pickup Date/Time
amaz0001-18362308-5-080300-001	retailer stock	0123456789	small	standard	1	amaz0001-080300-001	CH1001-080300-000001	111221234-AT1001-080400-001	amaz0001-080300-123456	custom message (for order line item)	7/12/2000 8:10:06 PM	7/13/2000 5:43:25 PM

SKU data view

SKU	RDC Id	Quantity
01234567		
89012345		
67	AT1001	214

Case data view

SKU	RDC Id	Case	Item
01234567		Quantity	Quantity
89012345			
67	AT1001	3	11

Case table

Case Id	Status	ePD Retailer Id	SKU	SKU Size	Temperature Code	Quantity	RDC Id	Partial/Mixed Flag	Pick Grouping Id	Retailer Shipment Id	RDC Shipment Id	Local Market Id	CDC Id
amaz0001-080300-123456	destination in RDC	amaz0001	012345678901234567	small	standard	16	SE001	No	amaz0001-080300-PG001	amaz0001-080300-000001	CH1001-080300-000001	sflor	sflor-019

Pick Grouping table

Pick Grouping Id	Retailer Shipment Id	Case	Quantity
amaz0001-080300-PC001			85

Retailer Shipment table

Retailer Shipment Id	Status	ePD Retailer Id	ePD Shipper Id	Origination RDC Id	Retailer Employee Id	Trailer Id	Retailer Shipping Date/Time	Receiving Employee Id	Retailer Shipment Arrival Date/Time
amazo001-080300-001	in-transit	amazo001	epd	CI1001	333-22-4144	t-detro-4321	08-03-00 12 15 35	121-34-6565	08-03-00 17:25 08

~1212

Retailer Shipment Receiving table

Retailer Shipment Id	Status	Employee Id	Trailer Id	ePD Shipper Id
amazo001-080300-001	replicated	121-34-6565	t-detro-4321	epd

~1214

RDC Shipment table

RDC Shipment Id	Status	ePD Shipper Id	Origination RDC Id	RDC Shipping Dock Id	RDC Shipment Prep Date/Time	RDC Shipment Trailer Date/Time	RDC Shipment Arrival Date/Time	Desintation RDC Id	Employee Id #1	Employee Id #2	Employee Id #3	Employee Id #4	Employee Id #5	Trailer Loading Employee Id	Tran Loading Employee Id	Receiving Employee Id	Trailer Id	Carrier Id
CI1001-080300-00001	received	epd	CI1001	CI1001-R01	08-03-00 22 21 35	08-04-00 07 01 43	08-04-00 12:30 39	AT001	333-22-4411	333-22-4444	333-22-4443		#5	333-22-4442	220-22-10022	451-66-7887	t-mob99-1234	tail-12345

~1216

RDC Shipment Receiving table

RDC Shipment Id	Status	ePD Shipper Id	Origination RDC Id	Desintation RDC Id	Trailer Id	Receiving Employee Id	Case Id
CI1001-080300-00001	new	epd	CI1001	AT001	t-mob99-1234	454-66-7887	amazo001-080300-123456

~1218

Local Market Order List data view

Local Market Id	ePD Retailer Id	SKU	Quantity (Needed)
sflor	amazo001	01234567	80

~1220

Local Market Case Inventory data view

Local Market Id	ePD Retailer Id	SKU	Quantity
sflor	amazo001	01234567	48

~1222

CDC Order List data view

CDC Id	ePD Retailer Id	SKU	Quantity (Needed)
sflor-019	amazo001	01234567	8

~1224

FIG. 9B

1. The first step is to identify the problem. In this case, the problem is that the company is not meeting its sales targets.

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16

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twierd

230

6720162

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Table	
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1234

Table

1236

FIG. 9C

Delivery Shipment table

Delivery Shipment Id	Status	ePD Shipper Id	RDC Id	CDC Id	Temperature Code	RDC Employee Id	Trailer Loading Employee Id	Trailer Id	Delivery Shipment Loading Date/Time	CDC Employee Id	Delivery Shipment Arrival Date/Time
CT1001-sflor-019-080300-001	in-transit	synd	CT1001	sflor-019	standard	824-08-5432	333-22-4442	4321	08-04-00 16:11:20	333-22-4444	08-04-00 19:15:28

1238

RDC/CDC Package Inspection Report Header table

Report Id	Case Id	ePD Retailer Id	SKU	Quantity Difference	RDC Id
RPL-AT001-082900-001	123456	amazon001	01234567890	-1	A1001

1240

RDC Package Inspection Report Detail table

Report Id	Quantity	Package Id	Package Status	Delivery Shipment Id	CDC Id
RPL-AT001-082900-001	3	111221234-AT001-082900-001	CDC processing	CT1001-001 080300	sflor-019

1242

CDC Package Inspection Report Detail table

Report Id	Quantity	Package Id	Package Status	Delivery Shipment Id	CDC Id	LDDH Delivery Vehicle Id	Inspection Authorization Code	Over Quantity Adjustment Code	Short Quantity Adjustment Code
CPL-AT001-082900-001	2	111221234-AT001-082900-001	CDC processing	CH001-001 080300	A01				

1244

Retailer table

ePD Retailer Id	ePD Retailer Description	Status	Connection Script	Comments	Local Market Id	Address 1	Address 2	City	State	Zip	Contact Number	Returns Facility Id	Returns Local Market Id	Returns Address 1	Returns Address 2	Returns City	Returns State	Returns Zip	Returns Contact Number
amazon001	Amazon.com - Midwest	active	"connection string"		chicago	2609 W. Butler Ave		Chicago	IL	25652	303-619-1823	amazon001-RI-401	incal	1102 E. Verde Highway		San Mateo	CA	90455	609-455-7219

1248

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Item Inventory table

ePD Retailer Id	SKU	Warehouse Location	Status	Quantity	Temperature Code
amazon001	012345678	B212	shippable	60	standard

FIG 9D

SKU table

SKU	Status	Standard Case Quantity	SKU Size	Temperature Code	Product Description
01234567					Miami Hurricanes
89012345	active	20 small	standard		baseball cap

~1250

CDC table

CDC Id	Status	CDC Description	Local Market Id	CDC Server Connection Script	Address 1	Address 2	City	State	Zip	Primary Contact Number	Secondary Contact Number	Temp Code Reservation Override
		Commercial Blvd		"connection string"	1510 E. Commercial Blvd		Fort Lauderdale FL		33333 4321	954-321-9876	954-987-9876	40

~1252

Zip Code-CDC table

Zip	CDC #1	Distance	CDC #2	Distance #2	CDC #3	Distance #3	CDC #4	Distance #4	CDC #5	Distance #5
33333 sfior-019		0 sfior-018		5 sfior-020		5 sfior-021		10 sfior-017		11

~1254

Customer table

Customer Id	PIN	Last Name	First Name	CDC Preference	Previous CDC	Primary Contact Type	Primary Contact Address	Primary Contact Frequency	Primary Calling Window Start Time	Primary Calling Window End Time	Secondary Contact Type	Secondary Contact Frequency	Secondary Contact Number/Address	Secondary Calling Window Start	Secondary Calling Window End Time	Dual Notification Indicator	ePD Account Balance
123-45-6789		9876 Scintfeld	Jerome	sfior-019	sfior-019		954-565-4444	24	8:00	21:00	e-mail		customer@mindspring.com			YES	0

~1256

RDC table

RDC Id	ePD Shipper Id	Status	RDC Server Connection Script	Address 1	Address 2	City	State	Zip
A1001	epd active		"connection string"	1700 W. Dolphin St.		Atlanta	GA	22314

~1258

Shipper table

Shipper Id	ePD Shipper Id	Status
		active

~1260

Packing Material Restocking Counter table

CDC Id	Type	Quantity
sfior-019	cargo cage	5

~1262

RDC-Local Market table

RDC Id	ePD Shipper Id	Local Market Id
A1001	epd	ncali

~1264

FIG 9E

Item Return Header table

Item Return Id	Status	ePD Shipper Id	Customer Id	CDC Id	ePD Retailer Id	RDC Id	Returns Local Market Id	Item Return Creation Date/Time	CDC Reverse Shipment Id	Original Delivery Type	Original Order CDC Id	RDC Shipment Id	RDC Returns Shipment Id	Item Return Retailer Receipt Date/Time
amazo001														
18362308														
5-sflor019														
122800-														
IR001	in CDC	epd	183-62-3085	sflor-019	amazo001	CA001	ncali	12-06-00 8:11:19	sflor-019-RS001	ePD	sflor-019	CI1001-120600-00001	CI1001-120700-001	12-07-00 13:26:03

~1266

Item Return Detail table

Item Return Id	SKU	Package Id	Order Id	Return Quantity	Return Reason Code	Return Reason Comment	Retailer Order Number	Order Date/Time
amazo001								
18362308								
5-sflor019		111221234-						
122800-	012345678	AT001-	183623085-		item was the			12-03-00
IR001	901234567	120400-001	120300-001		2 wrong size		987654321	14-23-02

~1268

CDC Outbound Package table

CDC Outbound Package Id	Status	ePD Shipper Id	Shipping Customer Id	Delivery Type	Origination CDC Id	Recipient Customer Id	Destination CDC Id	RDC Id	Local Market Id	Temperature Code	Weight	Cost	Delivery Name	Delivery Address 1	Delivery Address 2	Delivery City	Delivery State	Delivery Zip
88822424																		
4-																		
sflor-019-																		
080400-	in originatio																	
001	in CDC	epd	111-22-1234	ePD	sflor-019	888-22-4244	ncali-005	AT001	sflor	standard	5.75	\$3.00						

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CDC Outbound Package table (continued)

Payment Method	Card Number	Payment Authorization	CDC Reverse Shipment Id	RDC Shipment Id	Package Size	Delivery Shipment Id	Notification Date/Time	Pickup Date/Time
credit card	234542346		sflor-019-	CI1001-001				
	423456000	79878756	RS001	1080300				

CDC Reverse Shipment table

CDC Reverse Shipment Id	Status	CDC Id	ePD Shipper Id	Shipment Origination RDC Id	Shipment Creation Employee Id	Loading Employee Id	CDC Reverse Shipment Date/Time	CDC Reverse Shipment Arrival Date/Time
sflor-019-								
120600-								
RS001	in-transit	sflor-019	epd	CI1001	333-22-4444	444-33-5555	12-06-00 12 15 35	12-06-00 17 25 08

~1274

FIG 9F

RDC Returns Shipment table

RDC Returns Shipment Id	Status	ePD Shipper Id	ePD Retailer Id	RDC Id	Temperature Code	RDC Employee Id #1	RDC Employee Id #2	RDC Employee Id #3	RDC Employee Id #4	RDC Employee Id #5	Trailer Loading Employee Id	RDC Returns Shipment Loading Date/Time	RDC Returns Shipment Arrival Date/Time
C11001-120700-001	open	epd	amazon001	CH001	standard	824-08-5432					333-22-4144321	08-04-00 16:41:20	08-04-00 19:15:28

1276

Order Header History table

Order Id	Status	ePD Shipper Id	ePD Retailer Id	Retailer Order Number	Delivery Type	Customer Id	Ordering Customer Id	Order Date/Time	RDC Id	Local Market Id	CDC Id	Partial Ship	Retailer Message-Order Header	Retailer Message-Packing List	Delivery Name	Delivery Address 1	Delivery Address 2	Delivery City	Delivery State	Delivery Zip
amazon001-18362308-5-080300-001	picked up	epd	amazon001	987654321	ePD	183-62-3085	183-62-3085	08-03-00 14 23 02	A1001	sflor		No	custom message (for order) ...	custom message (for retailer)						

Order Detail History table

Order Id	Status	SKU	SKU Size	Temperature Code	Quantity	Retailer Shipment Id	RDC Shipment Id	Package Id	Case Id	Retailer Message-Order Detail	Notification Date/Time	Pickup Date/Time
amazon001-18362308-5-080300-001	picked up	0123456789	small	standard	1	amazon001-080300-001	CH001-080300-00001	111221234-A1001-080300-080400-001	amazon001-080300-123456	custom message (for order line item)	7/12/2000 8 10 06 PM	7/13/2000 5 43 25 PM

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Bin Inventory table

Bin Id	SBU Id	Master Bin Id	Bin Size	Configuration Code	Temperature Code	Customer Id	PIN	Quick Code	Package Id	Status	Delivery Employee Id	ePD Shipper Id	Delivery Date/Time	Notification Date/Time
A01-01-0234	A01	01	3	234	standard	183-62-3085	9999	1111	111221234-AT001-080400-001	notified	183-62-3085	ePackage Depot	7/12/2000 8:05:22 PM	7/12/2000 8:10:06 PM

Bin Availability data view

Bin Size	Temperature Code	Quantity
3	standard	47

Bin Reservation table

Bin Size	Temperature Code	ePD Shipper Id	Reservation Date/Time	Quantity	Trailer Loading Employee	Status
3 standard		ePackage Depot	7/11/2000 11:33:04 PM		183-44-114288	new

Reserved Bins data view

Bin Size	Temperature Code	Quantity
3	standard	19

Pending Bin Configuration Adjustments table

Bin Size	Temperature Code	Quantity Adjust-ment
3	standard	-1

Unreserved Bins data view

Bin Size	Temperature Code	Quantity
	3 standard	28

Configuration Adjustments Log table

Configuration Adjustment Id	Configuration Type	Bin Id 1	Bin Id 2	Bin Id 3	Bin Id 4	Configuration Code 1	Configuration Code 2	Configuration Code 3	Configuration Code 4	Employee Id	Configuration Date/Time
A01-01-0234-121300	dividing	A01-01-0234					2	34		183-62-3085	12/13/2000 6:59:17 PM

1306

High-availability Bins data view

Temperature SBU Id	Temperature Code	Available Quantity
A01	standard	32

1307

Employee table

Employee Id	EPD Shipper Id	Local Market Id
432-47-0926	epd	sflor

1308

Notification Check table

Customer Id
123-45-6789

1310

Notification Queue table

Custo-mer Id	Record Date/Time	Total Number of Packages	New Indicator	First Notification Date/Time	Last Primary Contact Date/Time	Last Secondary Contact Date/Time	Next Primary Contact Date/Time	Next Secondary Contact Date/Time	Number of Primary Attempts	Number of Secondary Attempts	Next Contact Date/Time
123-45-6789	7/12/2000 8:06:22 PM	1	yes	null	null	null	null	null	0	0	0 null

~ 1311

Package Pickup table

CDC Id	Bin Id	SBU Id	Master Bin Id	Configuration Code	Bin Size	Temperature Code	Customer Id	PIN	Quick Code	Package Id	Delivery Employee Id	Shippor Id	Delivery Date/Time	Notification Date/Time	Pickup Date/Time
019	A01-01-0234	A01	01	234	3	standard	183-62-3085	9999	1111	111221234-AT001-080400-001	183-62-3085	ePackage Depot	7/12/2000 8:05:22 PM	7/12/2000 8:10:06 PM	7/13/2000 5:43:25 PM

~ 1312

Quick Code table

Quick Code
1111

~ 1313

SBU Settings table

SBU Id	Load Position Master Bin Id	Door Configuration Code
A01	16	100

~ 1314

Bin Movement table (2)

Load Position Master Bin Id	Move-ment needed for Master Bin	Move-ment needed for Master Bin	Move-ment needed for Master Bin
16	-3	-4	-x

~ 1315

Variable	Mean	Standard deviation	Minimum	Maximum
Age	35.1	10.2	22	55
Gender	0.48	0.50	0	1
Marital status	0.65	0.48	0	1
Education	12.5	1.8	9	16
Income	25.3	15.7	10	50
Health status	0.72	0.45	0	1
Life satisfaction	4.2	1.5	1	7
Depression	0.15	0.37	0	1
Stress	3.8	1.2	1	6
Resilience	5.1	1.8	1	8
Optimism	4.5	1.4	1	7
Gratitude	5.3	1.6	1	8
Forgiveness	4.7	1.5	1	7
Empathy	5.5	1.7	1	8
Compassion	5.2	1.6	1	8
Kindness	5.4	1.7	1	8
Generosity	5.6	1.8	1	9
Patience	5.7	1.9	1	9
Self-control	5.8	2.0	1	9
Emotional stability	5.9	2.1	1	9
Conscientiousness	6.0	2.2	1	10
Openness to experience	6.1	2.3	1	10
Agreeableness	6.2	2.4	1	10
Neuroticism	6.3	2.5	1	10
Extraversion	6.4	2.6	1	10
Introversion	6.5	2.7	1	10
Social desirability	6.6	2.8	1	10
Self-esteem	6.7	2.9	1	10
Self-efficacy	6.8	3.0	1	10
Resilience (continued)	6.9	3.1	1	10
Optimism (continued)	7.0	3.2	1	10
Gratitude (continued)	7.1	3.3	1	10
Forgiveness (continued)	7.2	3.4	1	10
Empathy (continued)	7.3	3.5	1	10
Compassion (continued)	7.4	3.6	1	10
Kindness (continued)	7.5	3.7	1	10
Generosity (continued)	7.6	3.8	1	10
Patience (continued)	7.7	3.9	1	10
Self-control (continued)	7.8	4.0	1	10
Emotional stability (continued)	7.9	4.1	1	10
Conscientiousness (continued)	8.0	4.2	1	10
Openness to experience (continued)	8.1	4.3	1	10
Agreeableness (continued)	8.2	4.4	1	10
Neuroticism (continued)	8.3	4.5	1	10
Extraversion (continued)	8.4	4.6	1	10
Introversion (continued)	8.5	4.7	1	10
Social desirability (continued)	8.6	4.8	1	10
Self-esteem (continued)	8.7	4.9	1	10
Self-efficacy (continued)	8.8	5.0	1	10
Resilience (continued)	8.9	5.1	1	10
Optimism (continued)	9.0	5.2	1	10
Gratitude (continued)	9.1	5.3	1	10
Forgiveness (continued)	9.2	5.4	1	10
Empathy (continued)	9.3	5.5	1	10
Compassion (continued)	9.4	5.6	1	10
Kindness (continued)	9.5	5.7	1	10
Generosity (continued)	9.6	5.8	1	10
Patience (continued)	9.7	5.9	1	10
Self-control (continued)	9.8	6.0	1	10
Emotional stability (continued)	9.9	6.1	1	10
Conscientiousness (continued)	10.0	6.2	1	10

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~ 1317.

Application listing

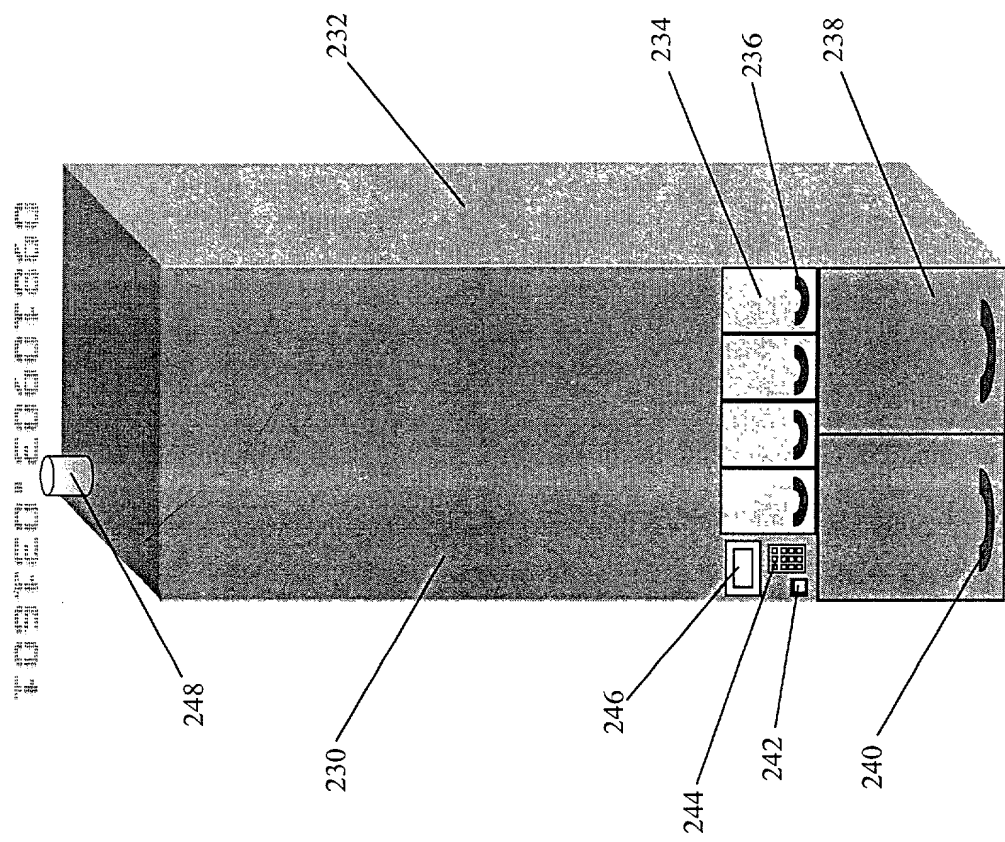
	Application Name	Application Server(s)
	ePD Billing and Maintenance Application	Corporate
	ePD Shipping Application	Retailer, RDC
	ePD Delivery Application	RDC, CDC
	ePD SBU Application	CDC

Program listing

Ref #	Program Name	Application
(310)	Pick List Report Program	ePD Shipping Application (retailer's instance)
(311)	Receive RDC Returns Shipment Data Program	ePD Shipping Application (retailer's instance)
(312)	Retailer Shipment Program	ePD Shipping Application (retailer's instance)
(313)	Receive RDC Returns Shipment Program	ePD Shipping Application (retailer's instance)
(314)	Retailer Shipment Adjustments Program	ePD Shipping Application (retailer's instance)
(315)	Retailer Package Creation Program	ePD Shipping Application (retailer's instance)
(316)	Receive Retailer Shipment Program	ePD Shipping Application (shipper's instance, origination RDC)
(317)	Receive RDC Reverse Shipment Data Program	ePD Shipping Application (shipper's instance, destination RDC)
(318)	RDC Shipment Program	ePD Shipping Application (shipper's instance, origination RDC)
(319)	Receive RDC Reverse Shipment Program	ePD Shipping Application (shipper's instance, destination RDC)
(320)	RDC Shipment Loading Program	ePD Shipping Application (shipper's instance, origination RDC)
(322)	Train Loading Program	ePD Shipping Application (shipper's instance, origination RDC)
(324)	Receive RDC Shipment Program	ePD Shipping Application (shipper's instance, destination RDC)
(326)	Local Market Sort Program	ePD Shipping Application (shipper's instance, destination RDC)
(328)	CDC Sort Program	ePD Shipping Application (shipper's instance, destination RDC)
(330)	Package Creation Program	ePD Delivery Application (shipper's instance, destination RDC)
(332)	Packing List Report Program	ePD Delivery Application (shipper's instance, destination RDC)
(334)	RDC Package Inspection Report Program	ePD Delivery Application (shipper's instance, destination RDC)
(336)	CDC Package Inspection Report Program	ePD Delivery Application (shipper's instance, destination RDC)
(338)	Packing Adjustment Program	ePD Delivery Application (shipper's instance, destination RDC)
(340)	Delivery Shipment Creation Program	ePD Delivery Application (shipper's instance, destination RDC)

Ref #	Program Name	Application
(341)	RDC Returns Shipment Creation Program	ePD Delivery Application (shipper's instance, destination RDC)
(342)	Delivery Shipment Program	ePD Delivery Application (shipper's instance, destination RDC)
(343)	RDC Returns Shipment Data Transfer Program	ePD Delivery Application (shipper's instance, destination RDC)
(344)	Configuration Adjustments Report Program	ePD Delivery Application (shipper's instance, destination RDC)
(345)	Shipment Adjustments Report Program	ePD Delivery Application (shipper's instance, destination RDC)
(346)	Packing Materials Supply Program	ePD Delivery Application (shipper's instance, destination RDC)
(347)	Notification Update Program	ePD Delivery Application (shipper's instance, destination RDC)
(348)	Pickup Update Program	ePD Delivery Application (shipper's instance, destination RDC)
(349)	Billing Program	ePD Delivery Application (shipper's instance, destination RDC)
(350)	CDC Package Adjustment Program	ePD SBU Application
(352)	SBU Configuration Program	ePD SBU Application
(354)	Loading Guide Report Program	ePD SBU Application
(356)	Loading Program	ePD SBU Application
(358)	New Package Notification Program	ePD SBU Application
(360)	Notification Program	ePD SBU Application
(362)	Auto-call Program	ePD SBU Application
(364)	Auto-e-mail Program	ePD SBU Application
(366)	E-mail Error Checking Program	ePD SBU Application
(368)	Package Location Report Program	ePD SBU Application
(370)	Unloading Program	ePD SBU Application
(372)	Bin Positioning Program	ePD SBU Application
(374)	Re-open Program	ePD SBU Application
(376)	Quick Code Reset Program	ePD SBU Application
(378)	CDC Returns Program	ePD SBU Application
(380)	CDC Outbound Package Creation Program	ePD SBU Application
(382)	CDC Reverse Shipment Creation Program	ePD SBU Application
(384)	CDC Reverse Shipment Program	ePD SBU Application
(386)	CDC Reverse Shipment Maintenance Program	ePD SBU Application
(388)	RDC Returns Shipment Update Program	ePD Delivery Application (shipper's instance, destination RDC)

FIG. 11B



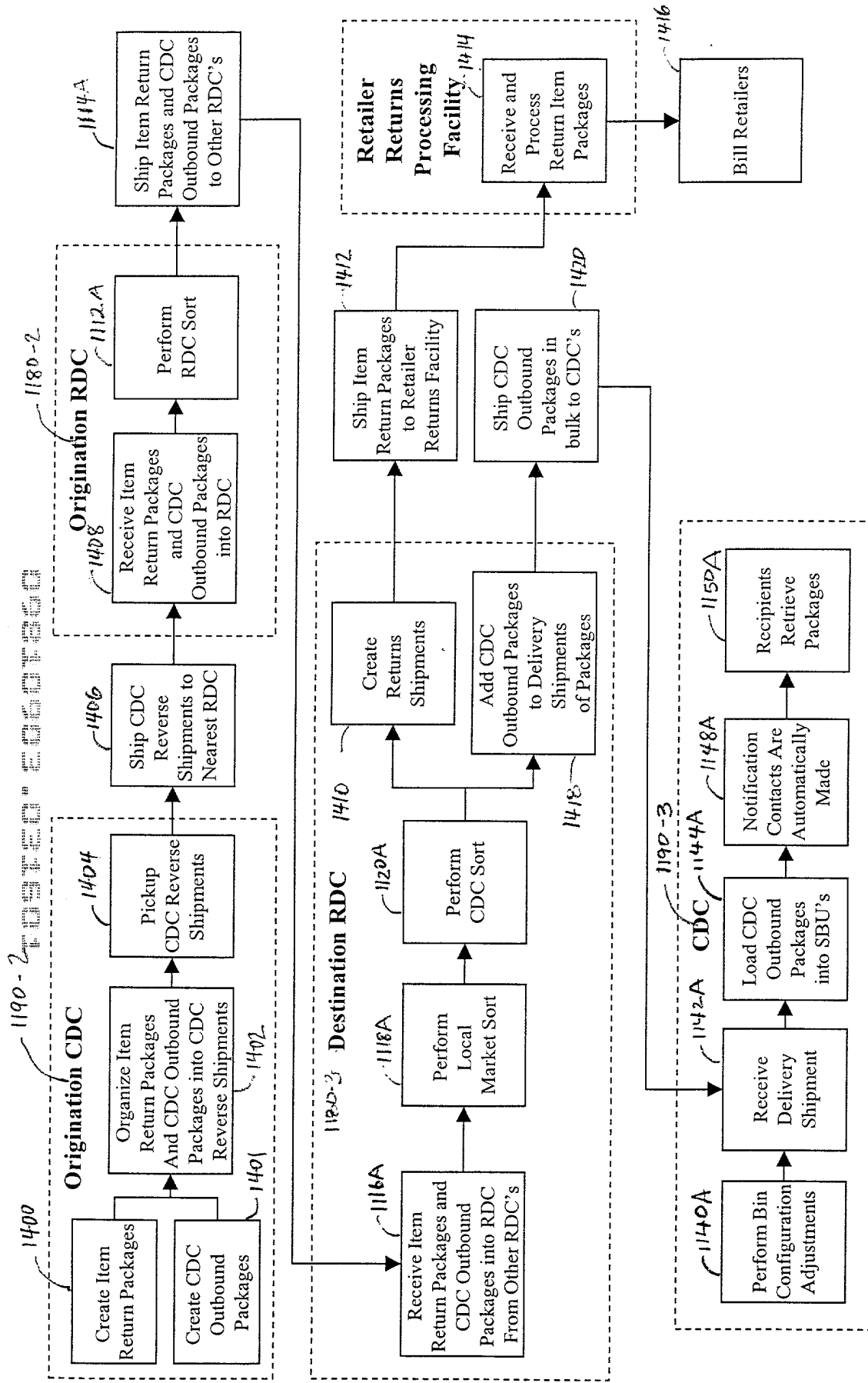


FIG. 13